

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A method of data transmission, comprising:  
~~determining and storing at least one transmission method, with at least one transmission speed that represents a maximum data throughput rate, in memory for different line parameters for a plurality of lines;~~  
measuring line parameters of a line using at least one transmission method; and  
selecting the transmission method having the transmission speed in which the measured and stored line parameters are most compatible with a different plurality of line parameters for which at least one transmission method, with at least one transmission speed that represents a maximum data throughput rate, is determined and stored in memory.
2. (Previously presented) The method according to claim 1, wherein the line parameters are represented by the attenuation and running time of the line and by interference signals on the line.
3. (Previously presented) The method according to claim 2, wherein the running time is determined by a measurement of the phase difference between two signals with different frequencies, one of the two signals formed according to the transmission method.
4. (Previously presented) The method according to claim 1, wherein the maximum data throughput rate for different line parameters is determined with different transmission methods and transmission speeds, by selecting the transmission methods in the frequency range of which the line parameters of attenuation and running time demonstrate the least amount of variations, and in which the interference of the measured interference signal has the least effect, and the line parameters that represent the maximum throughput rate are stored in memory.

5. (Previously presented) The method according to claim 1, wherein before the start of a data transmission, a measurement procedure is initiated, the procedure comprising:

determining which end of the line is a central end and which end of the line is a decentral end,

measuring interference of the line before the line parameters are measured at the central end,

selecting and reporting a transmission method to the decentral end,

sending a predetermined test signal by the central end, at two different frequencies, based on the line parameters stored in memory for the selected transmission method, and the line parameters of the test signal are measured by the decentral end, and a test signal is transmitted to the central end by the decentral end,

checking an attenuation of the test signal at the central end, and, as function of the measured attenuation, additional test signals at two different frequencies are transmitted to the decentral end,

repeating the sending and checking until the line parameters stored in memory have been worked off, and

comparing the measured line parameters with the line parameters stored in memory, and determining the transmission method and the transmission speed as a function of the comparison.

6. (Previously presented) The method according to claim 5, wherein the line parameters stored in memory are stored in tables, such that the tables are assigned to the different transmission methods with different speeds, and the selection of a transmission method for determining the line parameters and for determining the transmission method with the maximum throughput rate occurs by a comparison of the determined line parameters stored in the tables.

7. (Previously presented) The method according to claim 6, wherein transmission units are each connected at ends of the line, where a communications terminal is connected to one transmission unit, and a communications system is connected to the other transmission unit.

8. (Previously presented) The method according to claim 7, wherein the transmission methods are represented by synchronous or asynchronous base band transmission methods, or by a single-carrier or multi-carrier frequency transmission method.

9. (Previously presented) The method according to claim 8, wherein the alternate mark inversion method, high density bipolar order 3 encoding method, coded diphase method, or 2 binary 1 quaternary method is provided as the base band transmission method, and the QAM method with different step numbers and the phase difference method is provided as the carrier frequency transmission method.